

Mineral Industry Surveys

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VANADIUM IN SEPTEMBER 2005

Reported domestic consumption of vanadium in September 2005 was about 7% less than that of the previous month and was about 5% less than that of September 2004, according to the U.S. Geological Survey. Consumer stocks of vanadium, in all forms, were 398 metric tons (t) at the beginning of 2005 and 323 t at the end of September.

According to Ryan's Notes (2005), U.S. ferrovanadium (FeV) prices ranged from \$21.000 to \$22.000 per pound of vanadium content in September, as compared with \$22.889 to \$24.556 in August. European FeV prices ranged from \$54.556 to \$58.222 per kilogram (kg) in September, as compared with \$37.889 to \$41.111 in August. Vanadium pentoxide (V_2O_5) prices ranged from \$10.556 to \$11.556 per pound in September as compared with \$8.333 to \$10.167 in August.

European FeV prices rebounded from the lows of \$40 per kg in August to the range of \$55 to \$60 per kg by the end of

September. Prices in the United States lagged the trend in Europe but upward price movement was noted in the last week of September. The primary reason for the price rise was reduced exports of FeV from China coupled with higher V_2O_5 prices. In addition, Treibacher Industrie AG in Austria shut down for several weeks in September for necessary plant maintenance. The shutdown was expected to cause a loss of several hundred tons of FeV production (Metal Bulletin Research, 2005).

References Cited

Metal Bulletin Research, 2005, Vanadium highlights: Metal Bulletin Research, Ferro-alloys Monthly, no. 157, September 26, p. 15.
Ryan's Notes, 2005, [untitled]: Ryan's Notes, v. 11, no. 40, October 3, p. 10.

TABLE 1
U.S. CONSUMPTION AND CONSUMER STOCKS OF VANADIUM, BY FORM¹

(Kilograms, contained vanadium)

	2004		2005			
	Consumption	Stocks	August		September	
			Consumption	Stocks	Consumption	Stocks
Ferrovandium ²	3,610,000	298,000	293,000 ^r	261,000 ^r	267,000	295,000
Vanadium-aluminum alloy	W	W	W	W	W	W
Other ³	449,000	101,000	25,800	23,900	29,000	27,500
Total	4,050,000	398,000	319,000 ^r	285,000 ^r	296,000	323,000

^rRevised. W Withheld to avoid disclosing company proprietary data; included with "Other."

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Includes other vanadium-iron-carbon alloys as well as vanadium oxides added directly to steel.

³Includes other vanadium alloys, vanadium metal, vanadium pentoxide, vanadates, chlorides, other specialty chemicals, and items indicated by symbol W.

TABLE 2
U.S. CONSUMPTION OF VANADIUM, BY END USE¹

(Kilograms, contained vanadium)

	2004	2005		
		August	September	Year to date
Steel:				
Carbon	1,300,000	58,800 ^r	62,500	665,000
High-strength low-alloy	1,160,000	87,400	86,300	804,000
Stainless and heat-resisting	60,000	5,080	5,080	44,700
Full alloy	1,060,000	88,300	80,900	765,000
Tool	239,000	53,000 ^r	31,500	329,000
Total steel	3,820,000	293,000 ^r	266,000	2,610,000
Superalloys	16,600	803 ^r	803	7,380
Miscellaneous and unspecified ²	215,000	25,300	28,500	517,000
Total consumption	4,050,000	319,000 ^r	296,000	3,130,000

^rRevised.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Includes cast irons, alloys excluding steel and superalloys, chemical and ceramic uses, and other miscellaneous and unspecified uses.

TABLE 3
U.S. IMPORTS AND EXPORTS OF ALUMINUM-VANADIUM MASTER ALLOY AND VANADIUM
METAL, INCLUDING WASTE AND SCRAP¹

(Kilograms, gross weight)

	Aluminum-vanadium master alloy		Vanadium metal, including waste and scrap	
	Quantity	Value	Quantity	Value
Imports for consumption:				
2004	19,100	\$66,700	31,200	\$1,710,000
2005:				
June	--	--	11,500	507,000
July	--	--	379	3,120
August, Germany	--	--	10,700	631,000
Total	--	--	10,700	631,000
Year to date	1	3,770	38,000	2,210,000
Exports:				
2004	10,900,000	24,000,000	522,000	7,760,000
2005:				
June	1,220,000	5,110,000	5,340	338,000
July	1,170,000	2,890,000	51,800	4,250,000
August:				
Austria	--	--	3,710	93,600
Brazil	923	18,700	--	--
Canada	336,000	1,110,000	180	5,090
Germany	--	--	1,720	153,000
Guatemala	1,080	11,800	--	--
Japan	50,700	649,000	--	--
Korea, Republic of	2,100	13,100	--	--
Malaysia	916	11,900	--	--
Mexico	422,000	867,000	--	--
Thailand	55,700	262,000	--	--
Taiwan	10,900	50,900	--	--
United Kingdom	--	--	18,600	1,510,000
Total	880,000	2,990,000	24,200	1,760,000
Year to date	7,580,000	22,900,000	219,000	13,000,000

-- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

Source: U.S. Census Bureau.

TABLE 4
U.S. IMPORTS AND EXPORTS OF FERROVANADIUM, VANADIUM PENTOXIDE (ANHYDRIDE) AND
OTHER OXIDES AND HYDROXIDES OF VANADIUM¹

(Kilograms, contained vanadium)

	Ferrovanadium		Vanadium pentoxide (anhydride) ²		Other oxides and hydroxides of vanadium	
	Quantity	Value	Quantity	Value	Quantity	Value
Imports for consumption:						
2004	3,020,000	\$62,100,000	1,040,000	\$8,600,000	120,000	\$1,650,000
2005:						
June	183,000	14,000,000	63,100	4,830,000	8,430	842,000
July	167,000	13,400,000	96,800	6,020,000	20,500	949,000
August:						
Austria	--	--	7,440	118,000	--	--
Canada	39,400	2,720,000	--	--	--	--
China	--	--	16,200	383,000	--	--
Czech Republic	141,000	5,790,000	--	--	--	--
Germany	--	--	91	4,970	--	--
Japan	2,000	93,200	--	--	--	--
Russia	--	--	7,000	198,000	--	--
South Africa	--	--	106,000	3,320,000	48,000	251,000
Total	182,000	8,610,000	137,000	4,030,000	48,000	251,000
Year to date ³	11,400,000	99,300,000	743,000	30,700,000	116,000	4,050,000
Exports:						
2004	267,000	8,770,000	240,000	2,090,000	584,000	4,140,000
2005:						
June	7,120	138,000	24,000	661,000	77,800	4,210,000
July	58,000	2,860,000	2,310	33,300	15,300	149,000
August:						
Canada	13,700	283,000	--	--	141,000	1,260,000
Germany	--	--	3,910	166,000	--	--
Netherlands	25,200	976,000	--	--	9,250	143,000
United Kingdom	--	--	--	--	4,160	37,000
Total	38,900	1,260,000	3,910	166,000	155,000	1,440,000
Year to date	348,000	13,500,000	131,000	2,710,000	572,000	10,900,000

-- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²May include catalysts containing vanadium pentoxide.

³May include revisions to previous months data.

Source: U.S. Census Bureau.

TABLE 5
U.S. IMPORTS FOR CONSUMPTION OF VANADIUM-BEARING ASH, SLAG¹

(Kilograms, contained vanadium pentoxide)

	Ash and residues		Ash and residues (not from the manufacture of iron and steel)		Slag, from the manufacture of iron and steel	
	Quantity	Value	Quantity	Value	Quantity	Value
2004	4,260,000	\$8,520,000	11,100,000	\$2,000,000	244,000,000	\$10,400,000
2005:						
June	800,000	1,920,000	600,000	101,000	86,100,000	1,760,000
July	107,000	275,000	767,000	119,000	114,000,000	1,380,000
August:						
Canada	--	--	433,000	58,900	46,300,000	579,000
China	--	--	--	--	1,620,000	339,000
Mexico	400,000	999,000	--	--	--	--
Total	400,000	999,000	433,000	58,900	48,000,000	918,000
Year to date	2,800,000	6,010,000	4,720,000	749,000	350,000,000	6,680,000

-- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

Source: U.S. Census Bureau.

TABLE 6
U.S. IMPORTS FOR CONSUMPTION OF MISCELLANEOUS VANADIUM CHEMICALS¹

(Kilograms, contained vanadium)

	Sulfates		Vanadates	
	Quantity	Value	Quantity	Value
2004	500	\$19,100	74,700	\$1,150,000
2005:				
June	--	--	6,360	166,000
July	--	--	17,100	551,000
August	--	--	--	--
Year to date	--	--	54,700	1,520,000

-- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

Source: U.S. Census Bureau.